

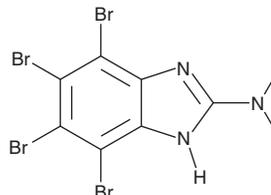
PRODUCT INFORMATION



DMAT

Item No. 21182

CAS Registry No.: 749234-11-5
Formal Name: 4,5,6,7-tetrabromo-N,N-dimethyl-1H-benzimidazol-2-amine
Synonyms: Casein Kinase II Inhibitor II, 2-Dimethylamino-4,5,6,7-tetrabromobenzimidazole
MF: C₉H₇Br₄N₃
FW: 476.8
Purity: ≥98%
UV/Vis.: λ_{max}: 239, 271, 315 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

DMAT is supplied as a crystalline solid. A stock solution may be made by dissolving the DMAT in the solvent of choice, which should be purged with an inert gas. DMAT is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of DMAT in these solvents is approximately 20 and 30 mg/ml, respectively.

DMAT is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DMAT should first be dissolved in DMF and then diluted with the aqueous buffer of choice. DMAT has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

DMAT is a cell-permeable inhibitor of casein kinase 2 (CK2; IC₅₀ = 0.13 μM).¹ It also inhibits Pim-1, Pim-3, HIPK2, and HIPK3 (IC₅₀s = 0.15, 0.097, 0.37, and 0.59 μM, respectively).¹ DMAT blocks cell growth and induces cell death in cancer cells, both in culture and in mouse xenografts.²⁻⁴

References

1. Pagano, M.A., Bain, J., Kazimierczuk, Z., *et al.* The selectivity of inhibitors of protein kinase CK2: An update. *Biochem. J.* **415**(3), 353-365 (2008).
2. Lawnicka, H., Kowalewicz-Kulbat, M., Sicinska, P., *et al.* Anti-neoplastic effect of protein kinase CK2 inhibitor, 2-dimethylamino-4,5,6,7-tetrabromobenzimidazole (DMAT), on growth and hormonal activity of human adrenocortical carcinoma cell line (H295R) *in vitro*. *Cell Tissue Res.* **340**(2), 371-379 (2010).
3. Sass, G., Klinger, N., Surma, H., *et al.* Inhibition of experimental HCC growth in mice by use of the kinase inhibitor DMAT. *Int. J. Oncol.* **39**(2), 433-442 (2011).
4. Yde, C.W., Frogne, T., Lykkesfeldt, A.E., *et al.* Induction of cell death in antiestrogen resistant human breast cancer cells by the protein kinase CK2 inhibitor DMAT. *Cancer Lett.* **256**(2), 229-237 (2007).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

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